
The Queen Elizabeth National Park Bird Observatory: a new avian research project in Uganda

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East Africa is home to c1,350 bird species, including approximately 200 migratory species from the Palearctic. Over the last decade the diversity of this avifauna has attracted increasing levels of interest within both professional and amateur circles. Uganda had had comparative political stability over the last decade and progressive policy-making regarding the understanding and conservation of biodiversity, but lack of skilled personnel and funding have tended to hinder the translation of this interest into constructive field research. Streamlining in governmental departments and flagship projects such as the Important Bird Area (IBA) programme (conducted by BirdLife International in partnership with the East Africa Natural History Society-Uganda) are doing much to redress this research deficit; however, the quality of such programmes may be considerably enhanced through long-term systematic field-studies⁹.

The Queen Elizabeth National Park Bird Observatory (QENPBO) is an ambitious new project designed to obtain and supply such information to larger national programmes for management and conservation of the environment. It will also supply a training programme for Ugandan nationals in all areas of project operations described below.

The study location

Queen Elizabeth National Park straddles the equator in its northern part, extending inland from the north-east shore of Lake Edward in south-west Uganda. The park is typical of much of Uganda, in that it contains a variety of habitat types reflecting the convergence of ecological communities that are more uniform in other parts of Africa^{3,7} (most notably the major communities of the West African Forest and East African Savanna). The park's avian community corresponds to this integration of habitat types. Encompassing diverse reedbeds, heavily grazed *Euphorbia-Capparis* thicket, grasslands, *Acacia* Woodland, Moist Tropical Forest, and saline crater lakes; QENP has the greatest bird species list of any national park in the country: 550 in total⁸, including 11 on the IUCN Red List of endangered species¹; it also has the largest number of mammals⁸. Already a Biosphere Reserve, and likely to

meet BirdLife International's IBA selection criteria (L. Fishpool pers comm), the park is of extreme interest to conservation and science.

Project overview

The major focus of the observatory will be to conduct a continuous systematic baseline survey of the distributions and densities of QENP's Afrotropical and Palearctic bird species over a minimum of three years. Survey techniques will include trapping, timed species counts, transects, and flushing species in quadrats.

Preliminary research is already being conducted to establish which survey techniques are most effective for any given habitat type (at least two will be employed for all habitats throughout the survey). The findings for any given area will be overlaid on an existing digital map of vegetation structure⁶, thus yielding a habitat-specific profile of the fluctuations through time in those populations monitored.

All data collected will be contained in a relational database that will enable rapid selective downloading of information for analysis, translation to Geographic Information System for digital mapping, and submission to relevant institutions.

Due to the wide range of data that may be obtained from the 'bird in the hand', trapping will not be employed solely as a census technique. All birds trapped will be marked with rings, and a wide range of morphological characteristics recorded. Additional trapping will be performed to boost sample sizes. Analysis of the resultant dataset will provide valuable information in a variety of areas including: the spatio-temporal dynamics of local, dispersive, and migratory movements, migratory bio-energetics, life expectancy, site fidelity, age/sex class structure etc. Blood samples will also be taken from limited numbers of certain species for genetic analysis at Copenhagen University (CU). Needless to say, extreme care will be taken to avoid stressing individuals unduly.

The results of the project will be relevant to a wide range of organisations. Within QENP, location-specific population monitoring is of obvious value to park management; reports concerning the effects of agricultural encroachment into the park, develop-

ment, and tourism will be submitted to the Uganda Institute of Ecology (the research arm of the Uganda Wildlife Authority). Evaluation of the diversity and movements of bird species in the park is significant to bird conservation at national and international levels, and also to overall biodiversity conservation (since overlaying species compositions from different taxa enables the identification of 'hotspots')^{4,5}.

To ensure that our findings in these areas are of maximum value, the QENPBO has become affiliated with the East Africa Natural History Society-Uganda (EANHS-U). Partnered with BirdLife International and the Royal Society for the Protection of Birds (RSPB), the EANHS-U is involved in coordinating national bird surveys, and has an additional base at Makerere University (MU), Kampala, where QENPBO will conduct periodic lectures. Further, the MU Institute of Environment and Natural Resources manages the Ugandan National Biodiversity Data Bank (to which we shall donate all data on bird species distributions), and has a link-programme with the study of bird evolution being undertaken at CU (mentioned above). Ringing schedules will be submitted to the Ringing Scheme of Eastern Africa, which now covers not only Kenya, Tanzania and Uganda, but also Ethiopia, Somalia and Sudan.

Following a two week intensive feasibility study performed in QENP in April 1996, during which just under 1,000 birds were ringed (12 Palearctic and 58 Afrotropical species), full-time research has now been under way for three months. The preliminary phase is principally based around trapping, as this allows field personnel and trainees to hone identification skills. A further 2,000 birds have now been trapped (adding another 31 species to the database, of which five are Palearctic). Forty two individuals from 17 Afrotropical species ringed in 1996 have been retrapped, and seven Palearctic individuals (two Great Reed Warblers *Acrocephalus arundinaceus*, one Willow Warbler *Phylloscopus trochilus*, two Wood Sandpipers *Tringa glareola*, one Common Sandpiper *Actitis hypoleucos* and one Little Stint *Calidris minuta*). The sightings list is already in excess of 280 species, even though many of the park's habitats have not yet been visited.

The observatory has already added several new species to the park list including: Blackcap *Sylvia atricapilla*, Scaly-throated Honeyguide *Indicator variegatus*, Cliff Chat *Thamnolaea cinnamomeiventris* and Chin-spot Batis *Batis molitor*; but probably the most interesting findings to date are two separate sightings of Bar-tailed Godwit *Limosa lapponica*, the first Ugandan records, although it migrates along the

East African coast through Kenya and Tanzania to southern overwintering grounds². Confirmation of acceptance of these records is still awaited.

As at Ngulia in Tsavo West National Park, Kenya (although on a greatly reduced scale!), the QENPBO aims to conduct intensive trapping of Palearctic species during peak migration periods. In order to increase research capacity in this area, without disrupting the survey timetable, the observatory is looking for skilled volunteers. We are keen to hear from anyone interested in becoming involved in this capacity, and also from anyone who wishes to learn more about the project with a view to collaborative research (or sponsorship). ☺

References

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